



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/656,395	09/05/2003	Joel Jameson	4000735.0022	8538

34755 7590 11/22/2004

ADAM K. SACHAROFF
MUCH SHELIST FREED DENENBERG AMENT & RUBENSTEIN, PC
191 N. WACKER DRIVE
SUITE 1800
CHICAGO, IL 60606-1615

EXAMINER

HAYES, JOHN W

ART UNIT PAPER NUMBER

3621

DATE MAILED: 11/22/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/656,395

Applicant(s)

JAMESON, JOEL

Examiner

John W Hayes

Art Unit

3621

[Handwritten signature]

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 101

1. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

2. Claim 17 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

The basis of this rejection is set forth in a two-prong test of:

- (1) whether the invention is within the technological arts; and
- (2) whether the invention produces a useful, concrete, and tangible result.

For a claimed invention to be statutory, the claimed invention must be within the technological arts. Mere ideas in the abstract (i.e., abstract idea, law of nature, natural phenomena) that do not apply, involve, use, or advance the technological arts fail to promote the "progress of science and the useful arts" (i.e., the physical sciences as opposed to social sciences, for example) and therefore are found to be non-statutory subject matter. For a process claim to pass muster, the recited process must somehow apply, involve, use, or advance the technological arts.

In the present case, claim 17 only recites an abstract idea. The recited steps of obtaining scenarios, optimizing at least one resource allocation in each scenario, storing results, obtaining an allocation and evaluating the allocation does not apply, involve, use, or advance the technological arts since all of the recited steps can be performed in the mind of the user or by use of a pencil and paper. These steps only constitute an idea of how to optimize resource allocations.

As to technological arts recited in the preamble, mere recitation in the preamble (i.e., intended or field of use) or mere implication of employing a machine or article of manufacture to perform some or all of the recited steps does not confer statutory subject matter to an otherwise abstract idea unless there is positive recitation in the claim as a whole to breathe life and meaning into the preamble. In the present

Art Unit: 3621

case, none of the recited steps are directed to anything in the technological arts as explained above with the exception of the recitation in the preamble that the method is "computer implemented" and further the recitation of a computer program routine for subsequent handling. Looking at the claim as a whole, nothing the body of the claim recites any structure or functionality to suggest that a computer performs the recited steps. Therefore, the preamble is taken to merely recite a field of use. The computer program recited in the claim merely receives a result of the evaluation without carrying out any subsequent processing based on the result.

Additionally, for a claimed invention to be statutory, the claimed invention must produce a useful, concrete, and tangible result. An invention, which is eligible or patenting under 35 U.S.C. 101, is in the "useful arts" when it is a machine, manufacture, process or composition of matter, which produces a concrete, tangible, and useful result. The fundamental test for patent eligibility is thus to determine whether the claimed invention produces a "use, concrete and tangible result". The test for practical application as applied by the examiner involves the determination of the following factors"

- (a) "Useful" – The Supreme Court in *Diamond v. Diehr* requires that the examiner look at the claimed invention as a whole and compare any asserted utility with the claimed invention to determine whether the asserted utility is accomplished. Applying utility case law the examiner will note that:
 - i. the utility need not be expressly recited in the claims, rather it may be inferred.
 - ii. if the utility is not asserted in the written description, then it must be well established.
- (b) "Tangible" – Applying *In re Warmerdam*, 33 F.3d 1354, 31 USPQ2d 1754 (Fed. Cir. 1994), the examiner will determine whether there is simply a mathematical construct claimed, such as a disembodied data structure and method of making it. If so, the claim involves no more than a manipulation of an abstract idea and therefore, is nonstatutory under 35 U.S.C. 101. In *Warmerdam* the abstract idea of a data structure became capable of producing a useful result when it was fixed in a tangible medium, which enabled its functionality to be realized.
- (c) "Concrete" – Another consideration is whether the invention produces a "concrete" result. Usually, this question arises when a result cannot be assured. An appropriate rejection

Art Unit: 3621

under 35 U.S.C. 101 should be accompanied by a lack of enablement rejection, because the invention cannot operate as intended without undue experimentation.

In the present case, the claimed invention optimizes at least one resource allocation (i.e., repeatable) and stores results which appear to be useful, concrete and tangible. Although the recited process produces a useful, concrete, and tangible result, since the claimed invention, as a whole, is not within the technological arts as explained above, claim 17 is deemed to be directed to non-statutory subject matter.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Cheng et al, U.S. Patent No. 6,138,103.

As per **Claim 17**, Cheng et al disclose a computer implemented method to value at least one resource comprising:

- obtaining at least two scenarios (Col. 4, lines 45-55; Col. 5 line 50-Col. 6 line 15);
- optimizing at least one resource allocation in each said at least two scenarios (Col. 3, lines 21-60; Col. 6 line 64-Col. 7 line 7);
- storing intermediate results resulting from said optimizing (Col. 10, lines 1-5; Col. 11, lines 10-20, tables 2-11);
- obtaining an allocation of at least one resource (Col. 9, lines 35-53);
- evaluating said obtained allocation by using said stored intermediate results (Col. 5, lines 30-37; Col. 6, lines 3-14; Col. 9, lines 35-53);

Art Unit: 3621

Cheng et al does not explicitly disclose passing the result of said evaluation to a computer program routine for subsequent handling. However, Cheng et al does disclose that the results are subsequently displayed to the user (Col. 13 line 55-Col. 14 line 30 and Table 11). Thus, examiner submits that it would have been obvious to one of ordinary skill in the art at the time of applicant's invention that Cheng et al discloses a computer program routine for subsequent handling such as displaying the results to the user.

Double Patenting

5. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

6. Claim 17 is rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 28 of U.S. Patent No. 6,219,649 B1 in view of Cheng et al, U.S. Patent No. 6,138,103.

As per Claim 17, claim 28 of U.S. Patent No. 6,219,649 B1 recites all the limitations of this claim except for storing intermediate results and evaluating said obtained allocation by using said stored intermediate results. Cheng et al discloses storing intermediate results resulting from said optimizing (Col. 10, lines 1-5; Col. 11, lines 10-20, tables 2-11) and evaluating said obtained allocation by using said stored intermediate results (Col. 5, lines 30-37; Col. 6, lines 3-14; Col. 9, lines 35-53). Thus, it would have been obvious to one of ordinary skill in the art at the time of applicant's invention to modify claim 28 of U.S. Patent No. 6,219,649 B1 and include storing intermediate results and evaluating said obtained allocation by using said stored intermediate results as taught by Cheng et al in order to allow for

Art Unit: 3621

evaluation prior to any re-optimizing that may be necessary when new information about the scenario becomes available.

7. Claim 17 is rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 1 of U.S. Patent No. 6,625,577 B1 in view of Cheng et al, U.S. Patent No. 6,138,103.

As per Claim 17, claim 1 of U.S. Patent No. 6,625,577 B1 recites all the limitations of this claim except for storing intermediate results and evaluating said obtained allocation by using said stored intermediate results. Cheng et al discloses storing intermediate results resulting from said optimizing (Col. 10, lines 1-5; Col. 11, lines 10-20, tables 2-11) and evaluating said obtained allocation by using said stored intermediate results (Col. 5, lines 30-37; Col. 6, lines 3-14; Col. 9, lines 35-53). Thus, it would have been obvious to one of ordinary skill in the art at the time of applicant's invention to modify claim 1 of U.S. Patent No. 6,625,577 B1 and include storing intermediate results and evaluating said obtained allocation by using said stored intermediate results as taught by Cheng et al in order to allow for evaluation prior to any re-optimizing that may be necessary when new information about the scenario becomes available.

Conclusion

8. **Examiner's Note:** Examiner has cited particular columns and line numbers in the references as applied to the claims below for the convenience of the applicant. Although the specified citations are representative of the teachings in the art and are applied to the specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested that the applicant, in preparing the responses, fully consider the references in entirety as potentially teaching all or part of the claimed invention, as well as the context of the passage as taught by the prior art or disclosed by the examiner.

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Art Unit: 3621

- Wedelin discloses a method and apparatus for optimizing resource allocation which uses a probabilistic relaxation network technique for obtaining an optimal solution.
- Ernst discloses a method for the dynamic optimization of business processes by utilizing a workflow management computer system
- Lesaint et al disclose a method for resource allocation incorporating scheduling changes
- Dueck et al disclose a process and system for automatic, computer system supported optimization
- Ulwick discloses a computer based process for strategy evaluation and optimization including a computer-readable medium of instructions for directing a computer to evaluate data for optimizing strategic options.
- Conatser, Kelly, R., discloses mathematical optimization and how it is used to allocate resources

Art Unit: 3621

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Hayes whose telephone number is (703)306-5447. The examiner can normally be reached Monday through Friday from 5:30 to 3:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jim Trammell, can be reached on (703) 305-9768.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1113.

Please address mail to be delivered by the United States Postal Service (USPS) as follows:

**Mail Stop _____
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450**

Please address mail to be delivered by other delivery services (Federal Express (Fed Ex), UPS, DHL, Laser, Action, Purolator, etc.) as follows:

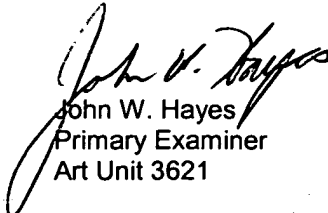
**U.S. Patent and Trademark Office
2011 South Clark Place
Customer Window, Mail Stop _____
Crystal Plaza Two, Lobby, Room 1B03
Arlington, Virginia 22202**

or faxed to:

(703) 872-9306 [Official communications; including
After Final communications labeled
"Box AF"]

(703) 746-5531 [Informal/Draft communications, labeled
"PROPOSED" or "DRAFT"]

Hand delivered responses should be brought to Crystal Park 5, 2451 Crystal Drive, Arlington,
VA, 7th floor receptionist.


John W. Hayes
Primary Examiner
Art Unit 3621

November 17, 2004